STROJNIK, A.

"Electron microscope" by V. Bystricky. Reviewed by A. Strojnik.
Elektr vest 30 no.1/2:55-56 '62/'63.

SMOLE, Drago, dipl. inz., asistent (Ljubljana); STROJNIK, Ales, dr. inz., izredni profesor (Ljubljana);

Poisoning of oxide-coated cathode. Elektr vest 30 no. 10/12: 295-299 '62/'63.

1. Division of Electrical Engineering, University of Ljubljana, Askerceva 9.

SMOLE, Drago, dipl. inz., asistent; STROJNIK, Ales, dr. inz., izredni profesor

Astigmatism as limiting factor in electron-optical images. Elektr vest 30 no. 10/12:270-272, 297-299 '62/'63.

1. Division of Electrical Engineering, University of Ljubljana, Askerceva 9.

STROJNIK, Ales, prof. dr. inz.

Some problems of precision mechanics in constructing electronic microscopes. Stroj vest 10 no. 1/2:14-18 Ap '64.

1. Faculty of Electrical Engineering, University of Ljubljana, Ljubljana.

STROJNIK, R. [illegible]

-tolerance in sozlozja. Ljubljana, DZS, 1950. 147 p. (Tolerances and concordances according to the International Standards Association. illus., tables)
CU Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

POLAND

Jerzy STROJNOWSKI, State Neuropsychiatric Hospital (Panstwowy Szpital dla Nerwowo i Psychicznie Chorych,) Director (dyrektor) physician (lekarz) W. BRENNENSTUHL, Research Advisor (Konsultant naukowy) Prof Dr H. KACZYNSKI, Abramowice.

"The Bases of Psychotherapy in the Conception of K. G. Jung."

Krakow, Przeglad Lekarski, Vol 18/Ser 2, No 11, 1962; pp 421-425.

Abstract: Although the psychotherapeutic schools of Freud and Adler are well known, Jung has so far been undeservedly neglected in Poland, and this article is an attempt by author to remedy this deficiency. He presents Jung's teachings on conscious:subconscious interactions and motivations, "personae", role-playing, archetypes, and other concepts. Five German-language (3 Swiss) texts are listed in bibliography.

1/1

S[illegible]DNY, Jan, mgr inz.

Joining Polish-made condensers into batteries for voltage of 3 to 40 kV. Wiad elektrotechn 19 no.7:224-226 Jl '59

1. Akademia Gorniczo-Hutnicza, Krakow

STROJNY, Jan, mgr.,inz.

Safety problems in the utilization of electric condensers.
Wiad elektrotechn 28 no.10:301-304 O '61.

1. Akademia Gorniczo-Hutnicza, Krakow.

STROJNY, Jan, mgr.inz.

Capacity measurements of condensers without disconnecting the battery. Wiad elektrotechn 30 no.7:238 Jl '62.

SADOWSKI, Jerzy, mgr. inz.; STUDROWICZ, Barbara, mgr. inz.; STROJNY, Tadeusz, mgr. inz. arch.; ZUCHOWICZ, Iwona, mgr. inz.

Sound proofing in the construction of dwelling houses. Konstrukcje Budow inzyn no.19:1-100 '62.

1. Instytut Techniki Budowlanej, Warszawa.

DA[illegible]SKI, Wlodzimierz; STROJNY, Teresa

Products of lemon-grass oil hydrogenation. Przem chem 41 no.1:43-44 Ja '62.

1. Zaklad Syntezy Srodkow Pomocniczych, Instytut Chemii Ogolnej, Warszawa

DANIEWSKI, Wlodzimierz; STROJNY, Teresa

A new method of obtaining cinnamic alcohol. Przem chem 41 no.2:68-70 F '62.

1. Zaklad Syntezy Srodkow Pomocniczych, Instytut Chemii Ogolnej, Warszawa.

POLAND / General and Specialized Zoology. Insects. P
The Biological Method for the Control of Harmful Insects and Acarids.

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59241.

Author : Strojny, W.
Inst : Not given.
Title : Thalessa perlata and Thalessa superba - the Parasites of the Tremex fuscicornis Larvae.

Orig Pub: Acta parasitol. polon., 1956 (1957), 4, No. 20-23, 819-837.

Abstract: The image of the ichneumon fly, in order to release itself bores a passage in wood, 1-0.5 cm in length. Copulation takes place at the moment of the females' emergence from the wood. In laboratory feeding conditions, the ichneumon fly lives about a month. The parasite destroys over

Card 1/2

POLAND / General and Specialized Zoology. Insects. F
Forest Pests.

Abs Jour : Ref Zhur - Biol., No 17, 1958, No 78388

Author : Strojny, Wladislaw
Inst : Not given
Title : Pests of the Fast-Growing Species of Trees. Part III

Orig Pub : Polskie pismo entomol., 1956 (1957), 26, No 1-26, 261-283

Abstract : Description of the morphology of the developmental stages of the willow-root lamiid (Lamia texter), its biology and ecology, illustrated with photos. Bibliography, 50 titles.

Card 1/1

STROJNY, WLADYSLAW.

W swiecie owadow. (Wyd. 1.) Warszawa, Wiedza Powszechna, 1957. 113 p.
(In the world of insects. 1st ed. illus.)
CU Not in DLC

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

STROJNY, W.

The way the snake fly Rhaphidia ophiopsis L. (Neuroptera, Rhaphidiidae) lays its eggs. Wszechswiat no.5:122 My'61.

STROJNY, Wladyslaw (Wroclaw)

From the biology of the poplar borer, Saperda populnea L.
Wszechswiat no.3:74-76 Mr '62.

STROJNY, Wladyslaw (Wroclaw)

Nature on Polish postage stamps. Wszechswiat no.6:153-157 Je '62.

STROJNY, W.

First Polish Students Exhibition of Nature Photography.
Wszechswiat no.11:297-298 N '62.

STROJNY, Wladyslaw

Rosalia alpina (L.), Cerambycidae, a dying-out beetle of the Polish beechwoods. Przegl zoolog 6 no.4:274-286 '62.

1. Zaklad Zoologii, Wyzsza Szkola Rolnicza, Wroclaw.

STROJNY, Wl. (Wroclaw)

Swifts and their parasites. Wszechswiat no.5:127-128 My '63.

STROJNY, Wladyslaw (Wroclaw)

National Polish Exhibition of Natural Photography, Poznan, December, 1962. Wszechswiat no.6:151-152 Je '63.

STROJNY, Wladyslaw (Wroclaw)

Protected plants and insects on Polish postal stamps.
Wszechswiat no. 7/8:167-169 Jl-Ag '63.

STRUHNY, W. (Wroclaw)

Protected amphibians and reptiles on Polish postage stamps.
Wszechswiat no. 1:22-23 Ja '64.

ST[illegible] Wladyslaw (Wroclaw)

The nervous of the spider Araneus diadematus Clerck on a signaling cord and an electric bulb in a streetcar. Wszechswiat no.3: 34 Mr '65.

STROJNY, Z.

The influence of the structure of forming dies and of the shape of pressure die castings on their quality. p. 73.
(TECHNIKA LOTNICZA, Vol. 6, No. 1/2, 1956, Warsaw, Poland)

Source: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9, Sept. 1957, Uncl.

STR[illegible]I, E.

Die casters in the automobile industry.

p. 141 (Technika Motoryzacyjna. Vol. 6, no. 5, May 1956. Warszawa, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

PHASE I BOOK EXPLOITATION POL/3429

Strojny, Zbigniew, Master of Engineering

Odlewnictwo ciśnieniowe (Die Casting) Warszawa, Państwowe Wyd-wo Techniczne, 1959. 251 p. Errata slip inserted. 2,000 copies printed.

Reviewer: Janusz Szreniawski, Docent, Doctor; Scientific Ed.: Włodzimierz Pessel, Master of Engineering; Tech. Ed.: F. Bondaruk.

PURPOSE: This book in intended for skilled workers, technicians, and engineers working in nonferrous metal foundries; it may also be useful to students at higher technical schools in departments of mechanics and casting.

COVERAGE: The author describes properties of die-casting alloys, designing and making of die-casting molds, die-casting machines and processes, cleaning and finishing of castings, defects in castings and their inspection methods, layout of die-casting shops and safety techniques in die-casting. No personalities are mentioned. There are 30 references: 13 Polish, 13 Soviet, 28 German, 24 English, and 2 Czech.

Card 1/7

STROK, Yu. (Bratislava)

Using electron microscopes in studying the texture of cement bricks. TSement 26 no.1:25-29 Ja-F '60. (MIRA 13:5)

(Electron microscope) (Cement)

POLAND / Physical Chemistry. Solutions. Theory of Acids and Bases. B

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 66938.

Author : Stroka A., Barchowski B., Sarnowski M.
Inst : Not given.
Title : Ebulimentrical Studies of Concentrated Solutions of H_2O-Ca $(NO_3)_2$-KNO_3.

Orig Pub: Roczn. chem., 1957, No 3, 1025-1028.

Abstract: The dependence of boiling points (B.P.) on the quantity of introduced dry KNO_3(II) in the 50.0, 59.9, and 69.4% aqueous solutions of $Ca(NO_3)_2$(I) was investigated. The ratio of molar concentrations of II and I (a) in the investigated solutions

Card 1/3

POLAND / Physical Chemistry. Solutions. Theory of Acids and Bases. B

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 66938.

Abstract: was varied from 0 to 2. Introduction of II into the 50 and 59.9% solutions of I was accompanied by an increase in B.P. With a <1, B.P. of the 59.9% solution of I was found lwer than B.P. of the 50% solution of I. With a >1 an opposite effect was noticed. Introduction of II into the 69.4% solution of I caused lowering of the B.P. A minimum is observed at a = 0.5. Further increase in the concentration of II causes gradual increase in the B.P. of the solution. When a = 1, B.P. of the solution is found to be slightly higher than when a = 0. The authors assume that the deviations from the Raoult's law of a given solution serve as criteria for the formation of $Ca(NO_3)_2 \cdot KNO_3 \cdot 3H_2O$ complex (III) in this solution (Ref.

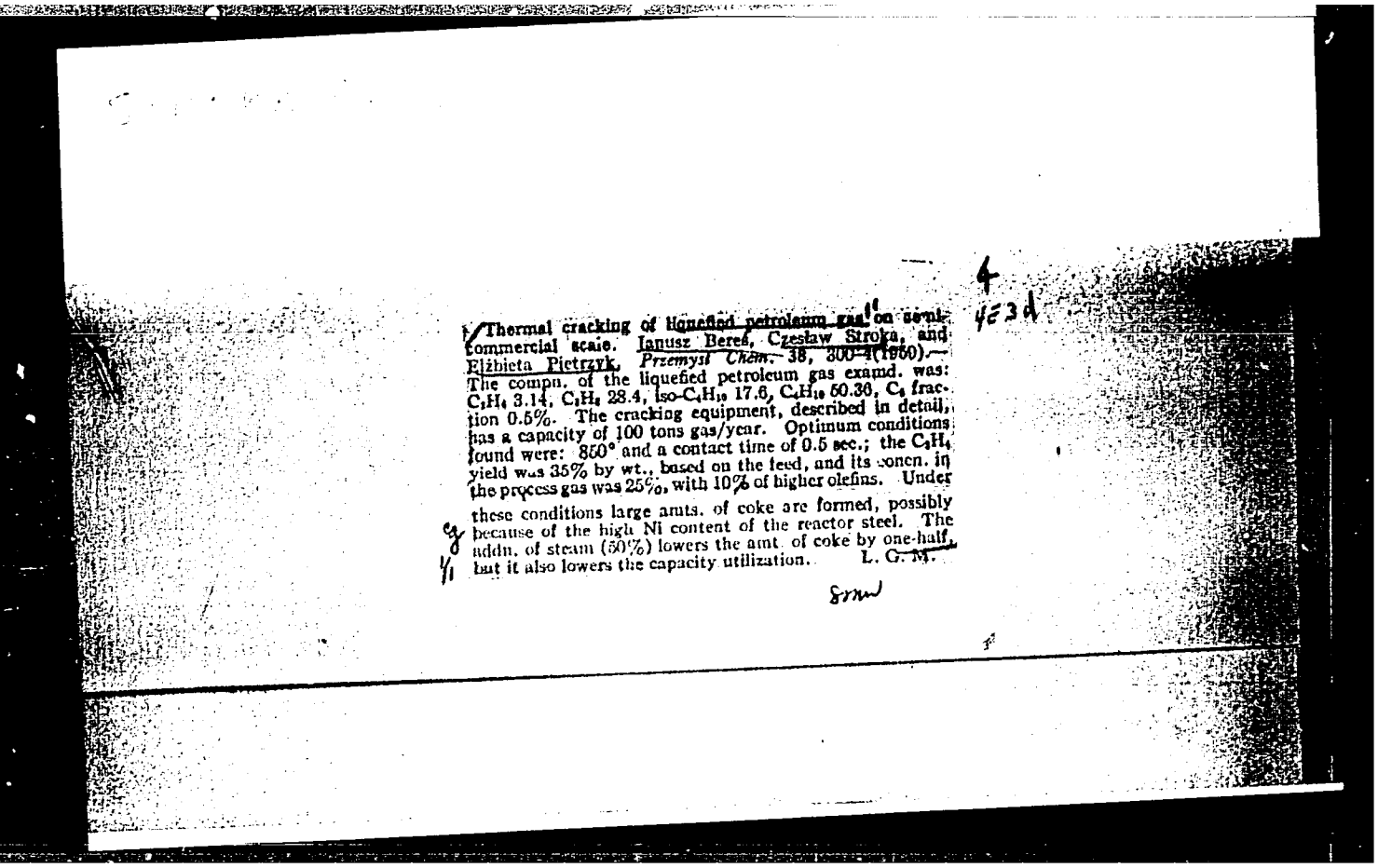
Card 2/3

8

ZLOTOWSKI, Ignacy; STROKA, Alfred

A study of the relative abundance ratio of isotopes ^{32}S and ^{34}S in some Polish native sulfur deposits. Nukleonika 5 no.5: 243-252 '60.

1. Warsaw University, Warszawa, Department of Nuclear Chemistry



Thermal cracking of liquefied petroleum gas on semi-commercial scale. Janusz Bereś, Czesław Stroka, and Elżbieta Pietrzyk. *Przemysł Chem.* 38, 300–4(1960).—The compn. of the liquefied petroleum gas examd. was: C_3H_6 3.14, C_3H_8 28.4, iso-C_4H_{10} 17.6, C_4H_{10} 50.30, C_5 fraction 0.5%. The cracking equipment, described in detail, has a capacity of 100 tons gas/year. Optimum conditions found were: 850° and a contact time of 0.5 sec.; the C_2H_4 yield was 35% by wt., based on the feed, and its concn. in the process gas was 25%, with 10% of higher olefins. Under these conditions large amts. of coke are formed, possibly because of the high Ni content of the reactor steel. The addn. of steam (50%) lowers the amt. of coke by one-half, but it also lowers the capacity utilization. L. G. M.

STROKACH, A.A., tovaroved, prepodavatel'

Cotton fabric for tablecloths and its commercial properties.
Tekst.prom. 21 no.11:29-31 N '61. (MIRA 14:11)

1. Institut sovetskoy torgovli Ministerstva torgovli RSFSR.
(Cotton fabrics)

STROKACH, A. A.

Cotton fabrics for table linen. Sov. torg. 35 no.12:32-33 D '61.
(MIRA 14:11)

(Cotton fabrics)

STROKACH, A. Yu.

SHEBANOV, I.P.; STROKACH, A.Yu.

Improving the packaging of finished products. Tekst.prom. 14 no.6:51-52 Je '54. (MLRA 7:7)

1. Zamestitel' direktora leningradskoy fabriki "Vereteno" (for Shebanov) 2. Nachal'nik otdela tekhnicheskogo kontrolya (for Strokach)
(Packaging) (Textile industry)

L 1996-66 EWT(m)/EWA(h)

ACCESSION NR: AP5020263 UR/0367/65/002/001/0124/0130

AUTHOR: Meshcheryakov, V. A.; Nemenov, L. L.; Solov'yev, L. D.; Strokach, P.; Tkebuchava, F. G.

TITLE: Mechanism of emission of hard γ quanta in the reaction π + n → π + γ + N

SOURCE: Yadernaya fizika, v. 2, no. 1, 1965, 124-130

TOPIC TAGS: photon emission, pion proton interaction, nuclear interaction, pion pion interaction

ABSTRACT: The authors analyze the mechanism of hard-photon emission when pions interact with nucleons. The contributions of different Feynman diagrams to the cross section of this process are first analyzed, and it is shown by comparison with experimental data that various contributions and interferences of the high-order diagrams can be neglected. From the experimental data on the reaction $\pi^- + p \to \pi^- + \gamma + p$ the authors determine the interaction constant for the reaction $\gamma + \pi \to \pi + \pi$, and find it to be equal to $C^2 = 0.9 \pm 0.5$. Only the single-meson diagrams are taken into account, and the contribution of diagrams with rescattering are neglected. Diagrams in which γ quanta are emitted by nucleons are likewise neglected. The solution of the dispersion equation for the amplitude of the process in question is obtained in this paper as a function of only a single constant,

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L 1996-66
ACCESSION NR: AP5020263

9

which facilitates the analysis of experimental data, inasmuch as they are too scanty for the determination of two constants. "The authors thank B. M. Pontecorvo for interest in the work and L. I. Lapidus for valuable hints." Orig. art. has: 3 figures and 22 formulas.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 04Dec64 ENCL: 00 SUB CODE: NP

NR REF SOV: 005 OTHER: 005

Card 2/2 DP

KHEYFETS, V.L.; AVDEYEV, D.K.; REYSHAKHRIT, L.S.; STROKAN, B.V., otvetstvennyy redaktor; MEL'NIKOVA, G.G., redaktor, GLAZUNOV, F.D., tekhnicheskiy redaktor.

[Practical work in theoretical electrochemistry] Praktikum po teoreticheskoi elektrokhimii. Leningrad, Izd-vo Leningradskogo universiteta, 1954. 235 p.
(Electrochemistry) (MLRA 8:2)

STROKAN, B.V., kand.khim.nauk

Modeling in corrosion tests in flowing sea water. Metallovedenie 3:367-380 '59. (MIRA 14:3)
(Electrolytic corrosion) (Hydraulic models)

AUTHORS: Ryvkin, S. M., Strokan, N. B., Tuchkevich, V. M., Chelnokov, V. Ye. 57-28-6-5/34

TITLE: Silicon Photodiodes (Kremniyevyye fotodiody)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 6, pp. 1165-1168 (USSR)

ABSTRACT: In the present report the results obtained by investigating the possibility of utilizing silicon p-n photoelements for the purpose of transforming light signals into electric signals in the photodiode regime are described. It could be taken for granted from the very beginning that silicon photodiodes, which are of somewhat lower integral sensitivity, must offer some advantages compared to germanium photodiodes (reference 3), viz. a lower "dark current" and a lower degree of inertia. Further, the results obtained by investigating the basic properties of the silicon photodiodes LFTI produced in the laboratory are described. The sensitivity of samples to the light of the incandescent lamp with a color temperature of the filament of ~2850°C fluctated between 5 and 7 mm/lumen

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(figure 1). The photodiodes have the same sensitivity along the entire illuminated surface (figure 2). The dependence of sensitivity on light intensity is linear (figure 3). The volt-ampere characteristics of the photodiodes are shown (figures 4a and 4b). Estimation of the time needed for "flying through" t_o resulted in the value $t_o \simeq \frac{w^2}{2D} \approx 3 \cdot 10^{-8}$ sec. Finally, the authors endeavored to estimate the life of the minority carriers τ in the photodiodes investigated by studying the kinetics of the photoelectromotive valve force Φ. When measuring τ, $\tau \sim 1 \cdot 10^{-6}$ sec was obtained as a result. This amount must be considered to be merely the upper limit of the τ value as it corresponds to the duration of the front amplification of the light impulses. For $\Phi \ll \frac{kT}{e}$ the relaxation curve is an exponent with a time constant $R_e C$, in which case $\frac{1}{R_e} = \frac{1}{R_o} + \frac{1}{R}$. The value of the capacity, which was determined

from $R_e C$, was found to be equal to approximately 2000 pf. This capacity value is greater than the one mentioned in the table, because it corresponds approximately to the zero-displacement on the n-p-transition. There are 5 figures, 1 table, and 7 references, 7 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut, AN SSSR (Leningrad Physical-Chemical Institute, AS USSR)

SUBMITTED: January 28, 1958

1. Silicon—Photoconductivity 2. Silicon—Photosensitivity 3. Silicon—Electrical properties 4. Silicon—Electron transitions 5. Mathematics

TITLE: Photodiodes

AUTHORS: Ryvkin, S. M., Strokan, N. B. 57-28-6-6/34

TITLE: On the Kinetics of Phototriodes (O kinetike fototriodov)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 6, pp. 1169-1173 (USSR)

ABSTRACT: Phototriodes can be used as highly photo-sensitive means transforming light signals into electric signals. It is therefore of particular interest to study their inertia. During the first months of 1957 the authors produced samples of germanium phototriodes in the laboratory, which had a sensitivity of 1 $\div$ 4 ampères/lumen, a dark current of 500 $\div$ 700 microampères (saturation remains up to $\sim$5V), and a sensitive surface of $\sim$4 mm^2 (reference 1). Besides the authors, also engineer N. F. Ragozina and laboratory worker I. A. Lebedeva assisted in producing the samples. The high sensitivity of phototriodes is known to be connected with the process of amplification of the photocurrent which takes place in them. The kinetics of phototriodes was investigated by means of an apparatus which is shown in form of a

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schematical drawing (figure 2). Determination of the quality of the time constant was carried out by the method developed by Tolstoy and Feofilov (reference 2) on the basis of the principles of the substitution scheme (reference 3). Results are shown by a table. From the oscillogram worked out by V. V. Makarov, student of the LGU (reference 3) it may clearly be seen that the rapid relaxation of the collector current, to be expected on the strength of theoretical argumentation and a slower relaxation of the potential differences on the point of emitter transition actually take place. In conclusion it is mentioned that in the case of phototriodes a working regime which is analogous to the so-called "hybrid regime" of photodiodes (reference 5) is possible. In this case relaxation has 2 domains: a "phototriode" domain at low values of the photocurrent, and a "valve domain", which corresponds to high values of the photocurrent. Obviously, the "valve domain" is possible in phototriodes only in the case of "asymmetry" during generation of the photoelectromotive force in emitter- and collector transition. A typical

oscillogram of the phototriode signal in the case of a hybrid regime is shown (figure 4). There are 4 figures, 1 table, and 5 references, 5 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut (Leningrad Physical-Technical Institute)

SUBMITTED: December 23, 1957

1. Germanium—Electrical factors 2. Germanium—Photosensitivity
3. Germanium—Electron transitions 4. Germanium—Photoconductivity

TITLE: Phototriodes

SOV/57-28-9-2/38

Author: [illegible] S. M., Strikman, M. B., Makovskiy, L. L.

Title: On Problems of the Kinetics of Photovoltaic Cells With Electron-Hole Junctions (K voprosu o kinetike ventil'nykh fotoelementov s elektronno-dyrochnym perekhodom)

Publication: Zhurnal tekhnicheskoy fiziki. 1958, Nr 9, pp. 1871-1882 (USSR) Vol. 28

Abstract: This is a study of the kinetics of the photovoltaic cell operating [illegible]. No limitations are imposed on the ratio [illegible] of R_0C (where C denotes the capacity of the n-p junction at zero voltage, and R_0 its resistance) and of arbitrary loads R. The downward-sloping branch of the relaxation curve is investigated. In the first section qualitative considerations bearing on the kinetics of a few special cases are presented. In section 2 this is investigated as to its quantitative aspects. In section 3 the experimental equipment is described and in section 4 the theoretical results are compared with those from experiments. The downward-sloping branch of the [illegible] curve is computed assuming different conditions. [illegible] is assumed in reference 3 [illegible]

... Photovoltaic Cells With Electron-hole ...

... small capacitive currents) are not satisfied. ... If ... is sufficiently high, a section ... relaxation curve is still determined only by relaxation. This ... the data for the determination of the life ... of non-equilibrium carriers. These conclusions were substantiated by experiments. From the slope of the rectilinear ... in the oscillograms it was found, that the levels of ... centers are removed by $\simeq$ 0,23 eV from the bound... of the permitted zone. There are 10 figures and 8 refer... 7 of which are Soviet.

... Fiziko-tekhnicheskiy institut, AN SSSR (Leningrad Physical-Technical Institute, AS USSR)

... 1 ...

24(3)
AUTHORS: Ryvkin, S. M., Strokan, N. B. SOV/20-124-5-20/62

TITLE: On the Problem of the Relaxation of Non-equilibrium Conductivity in Recombination Through Traps (K voprosu o relaksatsii neravnovesnoy provodimosti pri rekombinatsii cherez lovushki)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 5, pp 1034-1037 (USSR)

ABSTRACT: The present paper describes the results of an experimental investigation of the theory for the case of few traps for arbitrary injection levels. The first part of this paper deals with the theoretical investigation, in the course of which the authors determine the time-dependence of the non-equilibrium concentration of the carriers for semiconductors with a type of simple traps M. The scheme of transitions corresponding to this case is described in form of a schematical drawing, after which the 3 kinetic equations and the neutrality condition are written down. If the total change Δm of the concentration of electrons in the traps is negligibly small as against Δn and Δp

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On the Problem of the Relaxation of Non-equilibrium Conductivi in Recombination Through Traps

(in the presen paper the system of notation of W. Shockley (Ref 1) is used), it holds qualitatively that during the main part of the monotonous relaxation process also dn/dt and dp/dt must be practically equal to each other. In the here investigated case of a small number of traps lifetime depends only on the concentration of the non-equilibrium carriers, and the value of lifetime at that instant is equal to the steady lifetime at the same steady concentration. A diagram shows the relaxation curve for the injection level $\Delta n_{steady}/(n_o + p_o) = 4$ for the case $\tau_p/\tau_n = 5$ (Shockley's system of notation). At the beginning of relaxation the relaxation curve is similar to the function e^{-t/τ_o}, but with increasing recombination it becomes ever more similar to the function e^{-t/τ_∞}. This transition takes place gradually without any salient point. The second part of this paper deals with experimental checking. The experimentally found curves for the decrease of photoconductivity agree qualitatively with theoretical results. In the case of a sufficiently

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On the Problem of the Relaxation of Non-equilibrium Conductivity in Recombination Through Traps

SOV/20-124-5-20/62

high injection level they have non-exponential character and are between 2 exponential functions, which correspond to the limiting values of lifetime. For the purpose of a qualitative checking of theoretical results the curves of photoconductivity relaxation were photographed, and $d\Delta n/dt$ and Δn were determined at some points of the declining branches of the oscillograms. All experimental results agree well with theoretical relations. There are 4 figures and 6 references, 4 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Physico-Technical Institute of the Academy of Sciences, USSR)

PRESENTED: October 25, 1958, by A. F. Ioffe, Academician

SUBMITTED: October 23, 1958

Card 3/3

9.4160

S/058/62/000/005/118/119
A061/A101

AUTHORS: Ryvkin, S. M., Strokan, N. B., Makovskiy, L. L.

TITLE: The kinetics of photoelectric cells with n-p junctions

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1962, 31, abstract 5-3-62y (V sb. "Fotoelektr. i optich. yavleniya v poluprovodnikakh", Kiyev, AN USSR, 1959, 360 - 366)

TEXT: The kinetics of ЛЭТИ (LETI) photodiodes was considered with lighted n-region and taking only the hole current into account. The relaxation of the rectifier element emf of the open photodiode circuit is shown to be determined by the lifetime, τ, of nonequilibrium holes if the inequality $\tau \gg R_0C$ is satisfied. C is the total capacity of the junction and assembly, and R_0 is the resistance of the n-p junction at zero voltage. The similarity between the curves of rise and drop of the photo-emf depends on the intensity of light considerably. At an increase of the latter, this similarity is disturbed. The inequality $\tau \gg R_0C$ can be disturbed by a decrease of temperature, in the case of a high capacity C, and in dependence of the type of photodiode. The general case of

Card 1/2

The kinetics of photoelectric cells with n-p junctions

S/058/62/000/005/118/119
A061/A101

photodiode connection at a load R_1 is examined quantitatively. The curves describing the approximate solution of the system of equations of the relaxation process in limit cases of emf drop are analyzed. The results obtained with both accurate and approximate formulas for the emf agree well with experimental data. Provisional information is presented for the kinetics of LETI germanium photodiodes of a sensitivity from 1 to 4 a/lumen, a dark current of 700 to 500 μa, an admissible voltage limit of ~ 5 v, and a lag of 10^{-5} sec. There is 1 reference.

V. Shch.

[Abstracter's note: Complete translation]

Card 2/2

Sinking

82544

S/181/60/002/007/024/042
B006/B060

24.7700

AUTHORS: Grinberg, A. A., Strokan, N. B.

TITLE: Influence of the Rate of Surface Recombination and of the Absorption Coefficient on the Transient Responses of Photodiodes

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 7, pp. 1536-1541

TEXT: Photodiodes are to this day known as the converters of light signals or radiation pulses to electric pulses with the least inertia; the study of the influence of various parameters on their inertia has a great practical importance. The present paper is a contribution to this problem. The authors obtained, theoretically, an expression for the transient response of a photodiode for arbitrary values of the surface recombination rate S and of the absorption coefficient k; the importance of considering finite S and k values is discussed in the introduction. As the initial step for the formulation of the problem (which is treated as a one-dimensional one), the authors used a schematic representation of a photodiode as is shown by Fig. 1. With large k values, e.g., in the conversion of a step pulse

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Influence of the Rate of Surface Recombination and of the Absorption Coefficient on the Transient Responses of Photodiodes

S/181/60/002/007/024/042
B006/B060

(⌐ pulse) by a photodiode, distortions of two types occur: the pulse experiences a shift with time and a modification of the form. Θ_1 (delay time) denotes the time from the beginning of excitation to the moment at which the current has attained 0.1 of its stationary value I_{st}; Θ_2 denotes the duration of the current growth in the interval $I_{st}[0.1; 0.7]$. The authors wanted to determine $\Theta_1(k,S)$ and $\Theta_2(k,S)$, and to find $I_{\sqcap}(t)$ for a ⌐ excitation pulse. First, the transient response is found for a δ pulse, by which it is possible to determine I(t) by means of Duhamel's formula for various exciting pulse shapes. Formulas (5) and (9) are obtained for $I_\delta(t)$ and by means of them for some special cases the transient responses are calculated for S=0 and shown in Fig. 2. $I_{\sqcap}(t)$ is given by formula (10). By means of these formulas, Θ_1 and Θ_2 can be determined as functions of kw; Figs. 3 and 4 show these for various S values. (w characterizes the distance between the irradiated diode surface and p-n junction, cf. Fig.1). Θ_1 shows the largest change in the transition range of uniform generation

Card 2/3

Influence of the Rate of Surface Recombination and of the Absorption Coefficient on the Transient Responses of Photodiodes

S/181/60/002/007/024/042
B006/B060

($kw \ll 1$) to a strong absorption ($kw \gg 1$). In the range of $kw \ll 1$, Q_1 practically does not depend on S. Q_2 is less dependent on kw than Q_1. $Q = Q_1 + Q_2$, is basically determined by Q_1; Q drops with rising S and scarcely varies with kw. It is stated in conclusion that the transient responses of photodiodes are only slightly influenced by S. Consequently, the formulas which are given for $S = 0$ can be used in practice, namely (11) for $I_\delta(t)$ and (12) for $T_\perp(t)$. The authors finally thank D. V. Tarkhin for his aid in the numerical calculations. There are 4 figures and 5 references: 4 Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: December 21, 1959

Card 3/3

83020
S/181/60/002/008/039/045
B006/B063

24.7700

AUTHORS: Berkovskiy, F. M., Ryvkin, S. M., Strokan, N. B.

TITLE: The Current-voltage Characteristics of the Blocking Layer of a Germanium p-n Junction in the Permeable Direction

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 8, pp. 1956 - 1961

TEXT: The purpose of the present paper was to verify Shockley's relation for the current-voltage characteristic of a planar p-n junction: $I = \beta I_s [\exp(q\Phi/kT) - 1]$, where $\beta = 1 + p(0)/(p(0)+n_0)$; Φ denotes the voltage applied to this junction, I_s - saturation current, q - electron charge, p(0) - hole concentration in the base on the p-n junction, and n_0 - equilibrium concentration of electrons in the base. The correction factor β considers the voltage drop occurring in the semiconductor. The authors first discuss the theory and the method of measurement, and describe the apparatus that is schematically represented in Fig. 2. The square-pulse generator used was designed by Engineer G. V. Khozov. The current-voltage

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The Current-voltage Characteristics of the Blocking Layer of a Germanium p-n Junction in the Permeable Direction

S/181/60/002/008/039/045
B006/B063

characteristics of the p-n junctions were taken in forward direction and at current densities of up to 800 - 1000 a/cm^2. For this purpose, the authors used the method of dividing the voltages into those in the semiconductor and the volume charge region according to their relaxation rates. A correction for the Dember emf is carried out (it takes into account the different mobilities of electrons and holes). The voltage-current characteristics measured on diodes and intrinsic p-n junctions are shown in diagrams. Furthermore, the authors examined molten germanium diodes with a high-resistivity starting material ($n_o \simeq 4 \div 6 \cdot 10^{13}$ cm^{-3}), for which $\beta = 2$ at a voltage of 100 - 150 mv on the p-n junction. Theoretical studies have shown that the functions $\ln I = f(\Phi)$ should be straight lines, and that the cotangent of their angle of slope should be equal to kT/q; thus a voltage of 25.6 mv is obtained for t = 20°C. The theory is well confirmed by experiment: 26.5 ± 0.5 mv was obtained.

Fig. 4 shows the characteristics obtained for a sample of $n = 4 \cdot 10^{13}$ cm^{-3} at different temperatures between -77° and +70°C. The numerical values

The Current-voltage Characteristics of the Blocking Layer of a Germanium p-n Junction in the Permeable Direction

S/181/60/002/008/039/045
B006/B063

pertaining to this diagram are compiled in a table. Shockley's formula is well satisfied in this temperature range at current densities of 0.1 - 100 a/cm^2. From ~ 100 a/cm^2 onward, the voltage on the p-n junctions is saturated. Its maximum value is 60 - 70 mv lower than the contact potential difference. The authors thank V. I. Stafeyev for his discussions. Yu. A. Kontsevyy is also mentioned. There are 5 figures, 1 table, and 13 references: 6 Soviet and 5 US.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: February 1, 1960

STEKAN, A. D.

S/141/60/002/009/024/036
B004/B056

AUTHORS: Ryvkin, S. M., Konoplev, B. F., Maslova, L. V., Matveyev, O. V., Stekan, A. D., Tarkhin, D. V., Shokov, G. V.

TITLE: Low-Inertia Germanium Photodiodes

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2199 - 2201

TEXT: Germanium photodiodes were developed in 1954 at the authors' institute; they are now being produced in industry, and have a time constant of about 10^{-5} sec. Now, the low-inertia photodiodes β1-M1 (P2-M1) and β1-M2 (P2-M2) were developed, which have a time constant of only $(1-3)\cdot10^{-8}$ sec. Inertia was measured by means of an apparatus schematically shown in Fig. 1. A Kerr cell fed by a TGC-6 (GIG-6) alternating current generator modulated light sinusoidally with a frequency, f, of 1Mc/sec. The light, which was amplified by an FEU (FEU) photomultiplier, was recorded by an ON-1 (ON-1) oscilloscope. Owing to the phase shift φ,

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the oscilloscope showed an ellipse. By means of an RC phase transformer, the ellipse was changed into a straight line. From the equation $\tan\varphi = 2\pi f\theta$ the time constant θ was calculated. Fig. 2a shows the function $\varphi = f(R_1)$ (R_1 - load resistance). In Fig. 2b the new diodes are compared with an βA-1 (DA-1) diode of the old type. The oscillograms show that the new diodes precisely reproduce a Π-shaped light pulse. The authors thank L. A. Lebedev, P. I. Gorokhov, collaborators of the laboratory, and F. M. Berkovskiy, student at LGU (Leningrad State University) for their assistance. There are 3 figures and 4 references: 3 Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut AN SSSR (Leningrad Institute of Physics and Technology of the AS USSR)

SUBMITTED: November 6, 1959

Card 2/2

BARKOVSKIY, F.N.; KYVKIN, S.N.; STROKAN, N.B.

Influence of adhesion levels on the relaxation of current through the p—n junction. Fiz. tver. tela 3 no.1:230-235 Ja '61. (MIRA 14:3)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR imeni akad. A.F.Ioffe.
(Transistors)

30800
S/181/61/003/011/047/056
B104/B138

9.4340 (1143, 1150)

AUTHORS: Berkovskiy, F. M., Ryvkin, S. M., and Strokan, N. B.

TITLE: Effect of adhesion levels on current relaxation in instruments with n-p junctions

PERIODICAL: Fizika tverdogo tela, v. 3, no. 11, 1961, 3535-3537

TEXT: Using the results of another work (FTT, 3, 1, 230, 1961) the authors study the effect of α- and β adhesions on the relaxation of a current flowing in a junction with a thin base. This case corresponds to real conditions, and is treated by the example of a photo-diode. Only in the case of α-adhesions and $t_o \gg \theta$ is If, the relaxation of the photo-current, retarded by $(1 + M/P_{vm})$. $t_o = w^2/2D$, where w is the thickness of the base and D the diffusion coefficient; $\theta = 1/\gamma(P_{vm} + M)$. For any marked retardation the concentration of adhesion levels M must satisfy the conditions $M \gg P_{vm}$; $t_o \gg 1/\gamma(M + P_{vm})$, i. e., $t_o \gg 1/\gamma M$. On the basis of published data an estimate for germanium and silicon gives

Card 1/2

Effect of adhesion levels on current ...

$M > 10^{15}$ cm^{-13}. This shows that, although important to the kinetics of photo-conductivity, in most cases adhesion levels do not affect the inertia of germanium or silicon instruments with n-p junctions. Adhesion through the depth of the base will affect the kinetics if the resistance affects the current flowing through it. In these cases inertia "t[illegible]g" could be detected in silicon at 300°K, and in germanium at 77°K. Adhesion levels can also affect other properties of instruments with n-p junctions in which there is resistance across the base. There are 2 Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: July 12, 1961

Card 2/2

27401
S/089/61/011/003/002/013
B102/B138

21.6000

AUTHORS: Ryvkin, S. M., Maslova, L. V., Matveyev, O. A., Strokan, N. B., Tarkhin, D. V.

TITLE: Silicon counters in nuclear spectrometry

PERIODICAL: Atomnaya energiya, v. 11, no. 3, 1961, 217 - 220

TEXT: Silicon counters were developed at the Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN USSR (Physicotechnical Institute imeni A. F. Ioffe AS USSR) in 1960. The counters were small (active area: 2·2, 5·5, and 10·10 mm^2). Their pulse height was $\sim$ 1 mv/Mev, and resolution less than 1% for E_α = 5.5 Mev. They were produced by sputtering gold to n-type silicon and diffusing phosphorus into the p-type silicon. The following characteristics were investigated: (1) Volt-ampere characteristics. They were the usual shape for p-n junctions. Reverse current was 0.5 - 0.05 μa (at 40 v) for the small-sized counters, and increased proportionally with area; breakdown voltage was between 50 and 60 v. (2) Capacitance-barrier voltage dependence. The capacitance of the sensitive layer (the volume-charge domain) was in accordance with the usual capacitor formula $d = \varepsilon_0 S/4\pi C$

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(S - area, ε_o - dielectric constant); since the thickness d of the sensitive layer is proportional to $\sqrt{V+V_o}$, the capacitance decreases as $(V+V_o)^{-1/2}$ with increasing voltage. (3) Pulse height-voltage dependence. Pulse height was determined by Q = eN (N - number of pairs formed in ionization); the mean pair formation energy, ε, was measured for Pu^{238} alpha particles ($Q = 2.5 \cdot 10^{-13}$ k): $\varepsilon = 3.53 \pm 0.15$ ev; this value agrees with that found in Ref. 4 (see below). (4) Pulse height-energy dependence. Pulse height ϕ as a function of voltage V was measured for the alpha energy groups 8.78 and 6.05 Mev. For the short-range group, pulse height reached saturation at $\sim$ 15 v, for the long-range group at $\sim$ 35 v. $\phi(E_\alpha)$ was found to be a straight line. It is predicted that at V = 60 v linearity will also be maintained for alpha particles of up to 10 Mev or for any other particles with ranges of up to 60μ. (5) Amplitude resolution. This was determined on a 100-channel analyzer using Pu^{238} alpha emission. After correction for noise background, resolution was found to be 27 kev or 0.5% for the small counter, 1% for the medium, and 10% for the large one. The spread is attributed to inhomogeneities of the silicon. In the OIYaI at

27401

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B102/B138

Silicon counter in nuclear ...

Dubna the 10·10-mm^2 counter has been used for U^{233}-fission-fragment recording with high alpha background; G. N. Flerov, Corresponding Member of the AS USSR, has submitted a spectrum recorded with this counter to the authors of the present article. These junction counters may be used not only for recording of α-particles and fission fragments but also for fast and slow neutrons. The authors thank G. V. Khozov, Engineer. T. A. Lebedeva and G. D. Gusarina laboratory assistents, and P. I. Gorshkov, mecnanic, for assistance. There are 7 figures and 4 non-Soviet references. They read as follows: Ref. 1: J. Blankenship, C. Borkowski. Bull. Amer. Phys. Soc., ser. II, 5, No. 1, 38 (1960). Ref. 2: S. Friedland, L. Mauer, J. Wiggins. Nucleonics, 18, No. 2, 54 (1960). Ref. 3: J. Mc Kenzie, J. Waugh. Bull. Amer. Phys. Soc., ser. II, 5, No. 5, 355 (1960). Ref. 4: M. Halbert, J. Blankenship. Nucl. Instrum. and Methods, 6, No. 1, 106 (1960).

SUBMITTED: March 18, 1961

Card 3/3

37808

S/120/62/000/002/039/047
E140/E163

24.7600

AUTHORS: Berkovskiy, F.M., Strokan, N.B., and Khozov, G.V.

TITLE: Study of the possibility of measuring semiconductor relaxation times of the order of 10-8 sec by the phase method

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 165-168

TEXT: A Kerr-cell modulator with sinusoidal 1 Mcs control signal was used to determine the lag of a fast photodiode on the basis of phase shift measurements. Two methods of obtaining the reference were examined: a photomultiplier detects the same light signal; the voltage applied to the Kerr cell is itself taken as the reference. It is considered that the delay in the photomultiplier itself is not negligible at the values used in the present measurements, whereas the phase shifts in the modulator are negligible. A constant difference was observed between the results obtained with the photomultiplier and those based on the Kerr-cell control voltage of the order of 10-8 sec.

Card 1/2

KAZARINOV, N.M.; MATVEYEV, O.A.; RYVKIN, S.M.; SOLOV'YEV, S.M.; STROKAN, N.B.; TARKHIN, D.V.

Use of semiconductor spectrometric counters for measuring the energy of fragments. Atom. energ. 12 no.2:153-154 F '62. (MIRA 15:1)
(Nuclear fission) (Nuclear counters)

MASLOVA, L. V.; MATVEYEV, O. A.; RYVKIN, S. M.; STROKAN, N. B.; TARKHIN, D. V.; KHOZOV, V. G.

Possibilities for using silicon counters in nuclear research. Izv. AN SSSR. Ser. fiz. 16 no.12:1498-1505 D '62. (MIRA 16:1)

(Nuclear counters—Design and construction)

RYVKIN, Solomon Meyerovich; MATVEYEV, Oleg Aleksandrovich; STROKAN, Nikita Borisovich

[Transistorized nuclea counters .oluprovodnikovye schetchiki iadernykh chastits. Leningrad, 1963. 39 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy, no.10)
(MIRA 17:7)

S/120/63/000/001/030/072
E039/E320

AUTHORS: Strokan, N.B. and Khozov, G.V.

TITLE: Use of a diffraction-modulator for measuring small relaxation times in semiconductors by the phase method

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 122-125

TEXT: Data are presented on the transmitted light-modulation system. The cell used is as described in an earlier paper (Popov et al - Optiko-mekhan. prom-st', 1959, no. 1, 30). It is filled with orthoxylene and a barium-titanate plate is used as a vibrator with a natural frequency of 5.25 Mc/s. The advantages of the diffraction-modulation system compared with the Kerr cell are: 1) elimination of the foil and lower controlling voltage than required for a Kerr cell; 2) for a corresponding selection of liquids the diffraction-modulation system can work in the 3 to 4 μ region of the spectrum; 3) low intensity of illumination required; 4) because of its low control voltage the diffraction-modulation system makes it easier to work at high frequencies. The apparatus is used for making measurements on the silicon surface-

Card 1/2

Use of a ....

- barrier photodiode with a time constant of 10^{-8} to 10^{-9} sec. There are 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
(Physicotechnical Institute of the AS USSR)

SUBMITTED: April 4, 1962

Card 2/2

ACCESSION NR: AP4018372 S/0120/64/000/001/0091/0096

AUTHOR: Strokan, N. B.

TITLE: Investigation of the characteristics determining energy resolution in silicon n-p counters of nuclear particles

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 91-96

TOPIC TAGS: counter, silicon np counter, nuclear particle counter, counter energy resolution, surface barrier radiation counter, electron hole pair life, charge collection

ABSTRACT: Methods for measuring the effective charge-collection time and the electron-hole-pair life in surface-barrier radiation counters are proposed. The measurements were performed with special silicon counters developed by the Physico-Technical Institute; the best samples had an energy resolution of 0.5% (or 25 kev) for alpha particles; the average samples, 1%. In the proposed method, the width of the space-charge region is so adjusted, by the voltage across the counter, that a portion of the track extends into the n-region. All recombination losses will be carried by the charge located in the n-region. Then, by

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ACCESSION NR: AP4018372

stepping up the voltage, the boundary of the n-p-transition field can be shifted, and a greater charge collected. A formula is submitted for calculating the charge collected as a result of the carrier diffusion. Experimental verification included 8.78-Mev 52-micron range alpha particles; the typical electron-hole life measured was 1 microsec, which is insufficient for a high resolution. It is believed that the energy resolution is proportional to a product of the average counter losses and a coefficient representing the nonuniformity of those losses in the counter volume. "The author is deeply grateful to L. V. Maslova for preparing the specimens, to S. M. Ry*vkin, O. A. Matveyev, and D. V. Tarkhin for valuable discussions, and to Yu. A. Shchegolev for his assistance in making the measurements." Orig. art. has: 7 figures, 10 formulas, and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-Technical Institute, AN SSSR)

SUBMITTED: 12Mar63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: NS NO REF SOV: 009 OTHER: 006

Card 2/2

L 9080-65 EWT(m)/EPF(c)/EPF(n)-2/EPR/T/EWP(b) Pr-4/Ps-4/Pu-4 IJP(c)/SSD/
AFMDC/ASD(a)-5 JD/JG
ACCESSION NR: AP4042947 S/0057/64/034/008/1535/1537

AUTHOR: Ry*vkin, S. M.; Matveyev, O. A.; Strokan, N. B.; Khusainov, A. Kh.

TITLE: Semiconductor γ-quantum counter based on germanium with radiation defects

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 8, 1964, 1535-1537

TOPIC TAGS: radiation counter, gamma radiation, gamma ray counter, semiconductor radiation counter

ABSTRACT: Germanium γ-ray counters are described which are constructed using a suitably thin plate of n-germanium exposed to Co^{60} γ-rays. The time of irradiation was selected in such a way that the full concentration of the introduced low-lying acceptor levels exceeded the concentration of initial donors (overcompensation). Then, thin well-conducting n- and p-regions were produced on the opposite faces of the plate, thus creating a structure suitable

Card 1/2

L 9080-65
ACCESSION NR: AP4042947

for counting. The resistance of the compensated middle region is very high at the temperature of liquid nitrogen. The energy resolution obtained with the first samples of counters was ~ 3 percent, and as yet is lower than the results received with counters produced by the introduction of lithium. The amount of the average energy of an electron-hole pair was 3.0 ± 0.1 ev. Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-mekhanicheskiy institut im. A. F. Ioffe, AN SSSR, Leningrad (Physicomechanical Institute, AN SSSR)

SUBMITTED: 08Apr64 ATD PRESS: 3105 ENCL: 00

SUB CODE: NP NO REF SOV: 002 OTHER: 001

Card 2/2

L 59516-65 EWT(m) Peb DIAAP DM

ACCESSION NR: AP5016938

UR/0089/65/018/006/0654/0655
539.107.4

AUTHOR: Maslova, L. V.; Matveyev, O. A.; Rybkin, S. M.; Sondayevskaya, I. A.; Strokan, N. B.

TITLE: Germanium n-i-p detectors with high energy resolution for detection of γ-quanta of low and medium energy

SOURCE: Atomnaya energiya, v. 18, no. 6, 1965, 654-655

TOPIC TAGS: n i p detector, gamma quanta spectrometer, gamma radiation detection, germanium radiation detector

ABSTRACT: A description is given of the construction and characteristics of an n-i-p detector for use in spectrometers. P-type germanium with a resistivity of 3—10 ohm.cm was the basic material of the detector. The n-i-p junction was produced by the thermal diffusion of lithium with subsequent drift of lithium ions into the field of the n-p junction. With a 10-hr ion drift, the width of the sensitive region (i layer) approached 1 mm. Further study showed that the addition of another electrode in the form of a ring guard improved the reliability, lowered inverse current and noise, and permitted operation at higher voltages. Inverse current for one meas-

Card 1/2

L 59516-65
ACCESSION NR: AP5016938

ured sample at 77K and 100 v was 5 x 10^{-5} amp without the ring guard and 10^{-9} amp with the ring guard. Detector resolution for a 1.333-Mev source (Co-60) was 6 ±1 kev; for sources below 0.5 Mev (482 and 57 kev, Hf-181), it was 4 ±1 kev. The detector was tested at liquid nitrogen temperature and a bias voltage of 100 v on a standard set-up consisting of a preamplifier, amplifier, discriminator, and amplitude analyzer. The input capacitance of the amplifier was 7 pf, and its open circuit noise did not exceed 2 kev. It was found that as the sensitivity of the detector increased, the relative number of pulses in the total energy peak grew due to gradual absorption of the Compton electron and γ-quanta scattering. The detector can be operated at room temperature with an inverse bias on the counter of 10—20 v; however, for prolonged service life, temperatures around 77K are recommended. Orig. art. has: 3 figures. [TS]

ASSOCIATION: none

SUBMITTED: 26Aug64 ENCL: 00 SUB CODE: EC, NP

NO REF SOV: 001 OTHER: 003 ATD PRESS: 4054

Card 2/2

L 10790-66 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b) IJP(c) JD/GG

ACC NR: AP5028912 SOURCE CODE: UR/0020/65/165/003/0548/0550

AUTHOR: Ryvkin, S. M.; Matveyev, O. A.; Strokan, N. B.; Khusainov, A. Kh.

ORG: none

TITLE: Spectrometric gamma-quantum counter based on germanium with radiation defects

SOURCE: AN SSSR. Doklady, v. 165, no. 3, 1965, 548-550

TOPIC TAGS: gamma counter, germanium semiconductor, gamma quantum

ABSTRACT: The design and operating characteristics of semiconductor γ-counters based on germanium with radiation defects produced by γ-rays of Co^{60} are discussed. These counters are shown to possess features superior to those of lithium-doped detectors with respect to amplitude resolution. For example, for γ-quanta with energies below 350 kev an absolute resolution of 4.0 ±0.8 kev was obtained; for 662-kev and 1.33-Mev lines, resolutions of 4.5 kev and 1.0 kev were obtained. The absoption of γ-quanta of Co^{60}, which were used to produce defects in germanium, was one of the obstacles encountered in designing counters with a larger field. However, counters with a wide active region (d_0 = 3 mm, where d_0 is the distance between the n' and p' layers) were obtained by γ-irradiation. A drop in the capacitance of detectors caused by an increase in d_0 has made it possible to reduce the noise level and to obtain a resolution of 2.7 ±0.15 kev for γ-quanta of Co^{57} (122 kev). For the 1.33-Mev line, the resolution was 5.6 ±0.5 kev. Orig. art. has: 1 figure. [JR]

Card 1/2 UDC: 539.107.4

L 10790-66

ACC NR: AP5028912

SUB CODE: 18/ SUBM DATE: 20Mar65/ ORIG REF: 005/ OTHER REF: 003/
ATD PRESS: 4168

Card 2/2

ROZHNOV, S.; LEVSHOV, V.; LEVCHENKO, A.; STROKANTSEVA, T.; STEPANOV, Yu.

A vacant seat. Grazhd. av. 21 no.7:15 Jl '64. (MIRA 18:4)

1. Sekretar' partiynogo byuro Yaltinskogo agentstva Aeroflota (for Rozhnov). 2. Chlen byuro ekonomicheskogo analiza Yaltinskogo agentstva Aeroflota (for Strokantseva).

STROKOV, V.V.

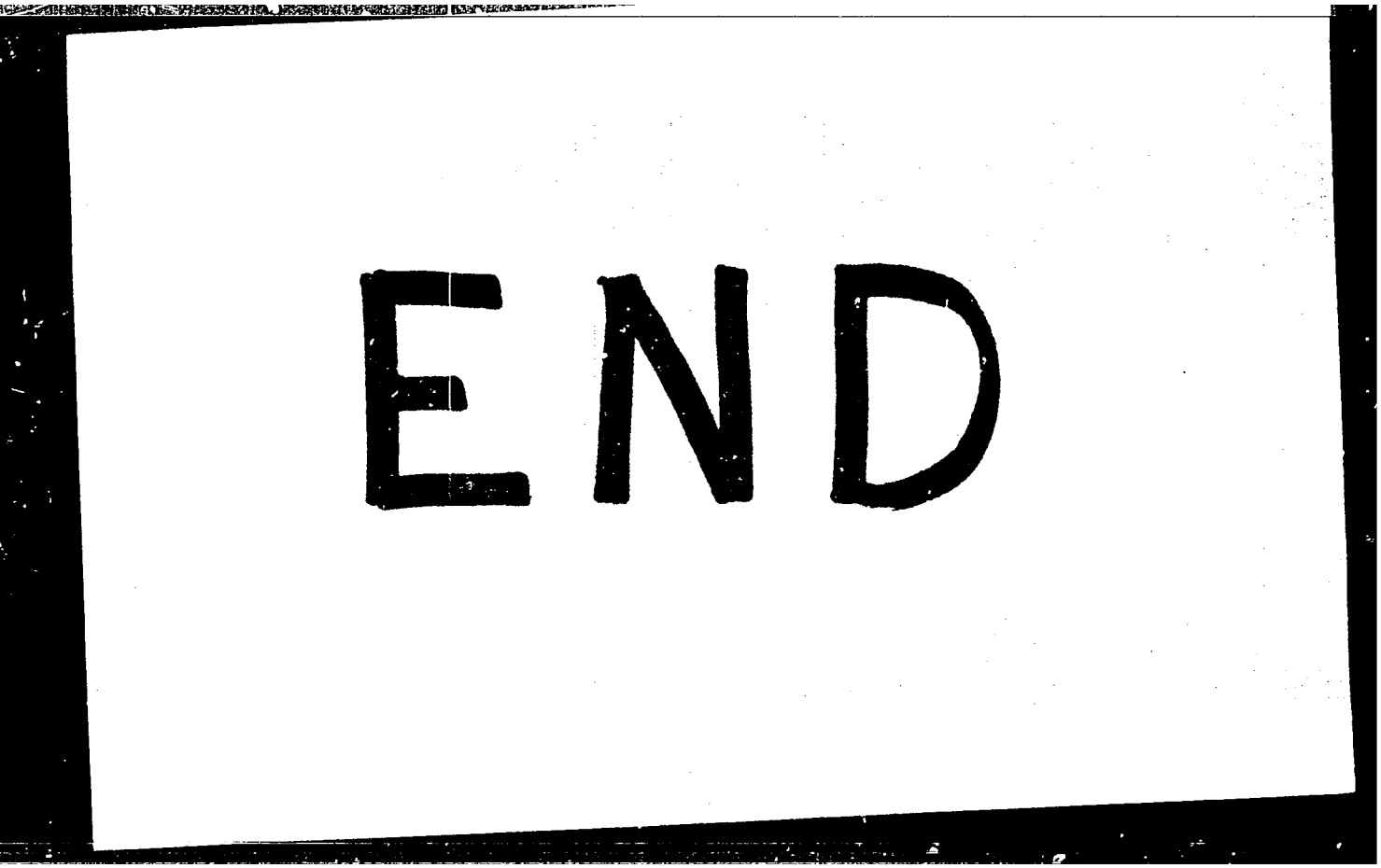
Insectivorous birds in Moscow. Ornitologiia no.4:305-315 '62. (MIRA 16:4)

(Moscow region--Birds)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653530014-3"

STROKIN, A., starshiy leytenant.

Guide frame for moving elongated charges. Voen.-inzh. zhur. 101 no.4:27-28 Ap '57. (MIRA 10:6)
(Demolition, Military)



APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653530014-3"